

IN THE CLAIMS

1-40. (Cancelled)

41. (Currently amended) An attenuated *Actinobacillus pleuropneumoniae* bacterium, having a mutation in a gene which comprises a nucleotide sequence selected from the group consisting of SEQ ID NO.:1-56.

42-43. (Cancelled)

44. (Currently amended) The attenuated bacterium of claim 41, having a plurality of mutations, occurring within ~~a single~~ said ~~gene or within different genes.~~

45. (Currently amended) A composition, comprising the attenuated bacterium of claim 41.

46. (Currently amended) The composition of claim 45, comprising a plurality of different attenuated *A. pleuropneumoniae* bacteria selected from the group consisting of bacteria having different mutations in ~~the same virulence~~ said gene, bacteria having ~~similar or different~~ mutations in two or more different genes, and mixtures thereof.

47. (Withdrawn) A method of treating an organism, comprising:
administering to the organism the bacterium of claim 41;
where the treatment is selected from the group consisting of preventing an infection with *A. pleuropneumoniae*, alleviating an infection with *A. pleuropneumoniae*, preventing symptoms associated with *A. pleuropneumoniae* infection, and alleviating symptoms associated with *A. pleuropneumoniae* infection.

48. (Previously presented) An attenuated bacterium having a mutation in a gene comprising a nucleotide sequence which is capable of hybridising to any one of the nucleotide sequences defined by SEQ ID NO:1-56, under conditions of moderate to high stringency.

49. (Withdrawn – Currently amended) A method of treating an organism, comprising:
administering to the organism the attenuated bacterium of claim 48;
~~where the treatment is selected from the group consisting of preventing an~~
~~infection with a wild type bacterium (or a different strain or serotype thereof), alleviating~~
~~an infection with a wild type bacterium (or a different strain or serotype thereof),~~
~~preventing symptoms associated with an infection with a wild type bacterium (or a~~
~~different strain or serotype thereof), and alleviating symptoms associated with an~~
~~infection with a wild type bacterium (or a different strain or serotype thereof).~~

50-60. (Cancelled)

61. (New) The attenuated bacterium of claim 41, having a plurality of mutations, occurring within said gene and within different genes.

62. (New) The attenuated bacterium of claim 48, wherein said conditions of moderate to high stringency comprise a final wash in a buffer comprising 2xSSC/0.1SDS at 35-45° C.

63. (New) The attenuated bacterium of claim 48, wherein said conditions of moderate to high stringency comprise a final wash in a buffer comprising 0.2xSSC/0.1SDS at 65-75° C.

64. (New) The attenuated bacterium of claim 41, wherein said gene comprises the nucleotide sequence of SEQ ID NO: 51.

65. (New) The attenuated bacterium of claim 64, having a plurality of mutations, occurring within said gene.

66. (New) A composition, comprising the attenuated bacterium of claim 64.

67. (New) The composition of claim 66, comprising a plurality of different attenuated *A. pleuropneumoniae* bacteria selected from the group consisting of bacteria having different mutations in said gene, bacteria having mutations in two or more different genes, and mixtures thereof.

68. (Withdrawn - New) A method of treating an organism, comprising:
administering to the organism the bacterium of claim 64;
where the treatment is selected from the group consisting of preventing an infection with *A. pleuropneumoniae*, alleviating an infection with *A. pleuropneumoniae*, preventing symptoms associated with *A. pleuropneumoniae* infection, and alleviating symptoms associated with *A. pleuropneumoniae* infection.
69. (New) The attenuated bacterium of claim 64, having a plurality of mutations, occurring within said gene and within different genes.
70. (New) The attenuated bacterium of claim 48, wherein said gene comprises a nucleotide sequence which is capable of hybridising to the nucleotide sequence defined by SEQ ID NO: 51, under conditions of moderate to high stringency.
71. (Withdrawn – New) A method of treating an organism, comprising:
administering to the organism the attenuated bacterium of claim 70.
72. (New) The attenuated bacterium of claim 70, wherein said conditions of moderate to high stringency comprise a final wash in a buffer comprising 2xSSC/0.1SDS at 35-45° C.
73. (New) The attenuated bacterium of claim 70, wherein said conditions of moderate to high stringency comprise a final wash in a buffer comprising 0.2xSSC/0.1SDS at 65-75° C.